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The Athenian Mercury.

Tuesday, *October* 2. 1694.

Queſt. 1. *WHat is the Reaſon that the Sun, when it is near the Tropics, ſhou'd for a conſiderable time, riſe much about the ſame place, whereas it very ſenſibly alters every day its place of riſing and ſetting, when it is near the Æquator.*

Anſ. The Reaſon is this, the Sun every day diſcribing a Circle Parallel to the Æquator, we are more or leſs ſenſible of the difference of the Days, and of the place of the Suns Riſing and ſetting, according as theſe Parallels differ more or leſs from one another; now if the Ecliptic be divided into ſeveral equal parts, beginning at the Equinoctial Point, and Parallels be drawn to the Æquator through every Diviſion, thoſe that are near the Æquator, will be found more diſtant from one another, than thoſe that are remote from it. As for inſtance, If Parallels are drawn through every tenth Degree of the Ecliptick, the diſtance of the firſt parallel from the Æquator, would be greater than the diſtance of the ſecond from the firſt, and ſo the diſtance of the ſecond from the firſt, be greater than that of the third from the ſecond, and ſo on, *&c.* and it will happen that the diſtance of the eighth parallel from the Tropick, will be much leſs than the diſtance of the firſt parallel from the Æquator; and conſequently, though the Æquator and the firſt parallel, cut the Horizon at two places, which are conſiderably diſtant from one another, yet the eighth parallel, and the Tropick, will cut it very near in the ſame place; and to know in what proportion theſe parallels decreaſe, is a caſe eaſily reſolved by the Doctrine of Spherical Triangles.

Queſt. 2. *How ſhall a man that's very deſirous of praiſe, even to ſuch a degree as to make him uneaſie when he miſſes it, be able to conquer that vain-glorious humour.*

Anſw. If he's capable of Reaſoning, a little thought will do the buſineſs; 'Tis only neceſſary to conſider the cauſe, emptineſs and effects on't.

Queſt. 3. *'Tis now affirmed by many, That there are a multitude of living creatures in the ſperm of animals; but not having yet had the good luck to make the Experiment ſatisfactorily, I deſire the Favour of you to give us the beſt account you have had of any Experiment of that Nature; and in what quantity they may be ſuppoſed to be?*

Anſw. Mr. Leevwenhoek has been very curious in making Experiments of this kind, and tells us, That having taken a Pike, and ſome other male fiſh, at the ſame time that theſe fiſh ſpawn, he perceived in their ſperm a prodigious quantity of little Animals, which were living, and continued moving themſelves long enough for him to obſerve them three ſeveral times with his microſcope, and yet reſt himſelf ſometime between each. He ſays, that in every portion of ſperm, that was about the bigneſs of a grain of ſand, there was above ten thouſand little fiſhes: that thoſe of both the fiſh were very much alike, and their bodies much leſs than the bodies of the Animals that are found in the Teſticles of Beaſts, but their Tails longer and ſmaller. He has alſo made the like Experiment upon a Hare, a Dog and a Cock, and hath diſcovered an infinite Number of other living Animals in their Teſticles, which were encompaſs'd with a Tranſparent matter. But the Hare having been dead Three or Four Days, Mr. *Leevwenhoek* perceived neither Life nor motion in its little Animals, although he obſerved them to have very near the ſame Form as thoſe of the other Beaſts had.

'Tis true, this Objection has been made againſt the Experiment, That the motion of the parts of the ſperm was only an Effect of Fermentation, and that it does not follow from thence, that each part of this agitated matter was a living Animal. To which Mr. *Leevwenhoek* anſwers, that he diſtinctly perceived thoſe little creatures to be compoſed of all the requiſite parts; and he is ſo fully perſwaded of the Exiſtence, Life, and almoſt infinite multitude of theſe little Animals, he maintains, That in the quantity of ſperm that one of theſe Fiſh might eject in a Year, there is more little living Fiſhes than there are men in the world: To prove which he ſuppoſes an hundred particles of ſperm, each as big as a grain of ſand, to make a Cubic Inch, and all this quantity of ſperm to be multiplied by 15 Cubic Inches.

100
100
100

It will be 1000000 parts for each cubic inch, which being multiplied by 15 cubic inches, we ſhall have 15000000 parts in all the ſeed. Now, according to his computation, there is 10000 little Animals in each particle of ſperm; which amounts to 150000000000 in the whole maſs. And although we cannot have an exact account of all the Inhabitants upon the Earth, yet to come the neareſt that poſſibly we can, Mr. *Leevwenhoek* makes the following computation.

The greateſt Extent of the circumference of the Earth, as it is generally concluded on, is 360 Degrees, or 5400 *German* Leagues. Now between the Diameter and circumference of a circle, there is the ſame proportion as between 22 and 7: multiply therefore 5400 by 7, it will be 37800, which divided again by 22, will give 1718 *German* Leagues for the length.

And to find the ſquare of the Axis of the Earth, we need only ſimply multiply it by it ſelf, and it will give 2951524. and that ſquare being multiplied by 22, makes 64933528 *German* Leagues for the ſuperficies of the Globe.

It is thought, that Two Thirds of the Terreſtrial Globe is covered with Water, and then there will remain of firm Earth only 3092072 Leagues, which are the third part of 9276218. From theſe 3092072, there muſt be cut off at leaſt one third, for Deſerts, uncultivated and inhabitable parts of the Earth, and there will remain only 2061382 for that part of the World that is peopled.

Let us ſuppoſe the Province of *Holland* to have 22 Leagues in length, and 7 Leagues in breadth, it will have 154 Leagues in Extent. And 2061382 the habitable part of the World being divided by 154 Leagues, which is the bigneſs of *Holland*, and the part of the Earth which is peopled will be 13385 times larger than this Province. It is believed that there is about a million of men in *Holland*; ſo that if we ſuppoſe the other parts of the Earth as well peopled as this place, which is not improbable, and ſhould multiply 1000000 by 13385, by how many times the reſt of the Earth ſurpaſſes *Holland*, it will give only 13385000000 men: whereas there is 150000000000 in all the ſeed that is emitted in a Year, only by one of theſe Fiſhes, which is as Ten to One.

Queſt. 4. *Whether it be a ſin againſt God to ſmuggle goods to ſave the cuſtom laid on them by Acts of Parliament?*

Anſw. Yes, ſince it is not only a breach of the Law, which alone would make it ſinful, but alſo a defrauding another of his Right.

Queſt. 5. *Whether it be a ſin againſt God to import Forreign Commodities that pay no Cuſtom, but are prohibited to be imported?*

Anſw

Answ. As the importation of Forreign Commodities are chiefly forbid for the good of the subject, that not having those supplies from abroad, we might make use of what is made here, which would imploy several poor Tradesmen, that for want of work are ready to starve; so there will be no difficulty to determine whether it be innocent or not to prefer ones single intereſt to the publick benefit.

Queſt. 6. *Whether a person that knows of Goods being smugled, and is no ways concern'd therein; but comes to know of them accidentally, is oblged in Conscience to discover the same to the Officers of their Majesties Customes, in order to proceed as the Law directs.*

Anſ. In this case our duty is the more difficultly put in practice, because through the frequency of this use, he is lookt upon not only to be innocent, but the cunningeſt person that can cheat moſt, and therefore 'tis not improbable but any one that wou'd inform, shall not only be thought a busy man, but likewise one that's a little malicious; this considered, and that the Law to prevent such unjuſt stealing of Custom, has Authoriz'd a seizure of all such Goods, if possible, that any means can be found of making reſtitution, by Advertizing the Person whose Goods they are, that is rather to be chose, but if not, he ought to discover it.

Queſt. 7. *Whether it be not a great sin for any Custom-house Officers to take a Reward to let Goods pass customefree.*

Anſ. Yes, undoubtedly, and whosoever knows of any one that makes a Practice of it, will do very well to discover it.

Queſt. 8. *I understand by one of your late* Mercuries *that you have perused* Mr. *Coke's* Detection of the Court and State of *England*, during the Four laſt Reigns, *&c. I have also gone through the first part of it, wherein, amongst many other notable passages, I find in* page 418. a *strange story relating both to the* Burial *of K.* Charles I. *and that of his Great Favourite the Duke of* Buckingham: *I need not relate it, you having already read it; but propound this Query, Whether that* King, *who has the Character of a* Parſimonious Prince, *almoſt by a general Consent of Authours, could be willing to be at so extravagant an Expence towards a Favourite, and yet that his own Son, K.* Charles II. *who was well known to be of a quite different Temper, should be so penurious upon an occasion wherein he should have manifested his utmoſt bounty?*

Anſ. We have already in the general paſſed our Judgment on this Book, and have no reason to queſtion the Truth of this paſſage in particular; 'tis indeed a ſtory that is no leſs *pleaſant* than *ſtrange* in all the parts of it; and we ſhall only note this, that tho these two *Princes* have acted their parts herein quite contrary to their reſpective Natures; yet we may obſerve on the one hand what powerful *magick* there is in the Charms even of a *Dead Favourite*; whereas on the other hand, the ſtricteſt Bonds of Nature, beſides other National Obligations, were not ſufficient motives to the diſcharge of the laſt duty to a *Parents Remains.* And as the peruſal of the *Firſt Volume* ſeems to have been no ungrateful Entertainment to you, as the whole has not been to us; ſo we hope you will excuſe us, if we a little anticipate your Expectations from the ſecond, by propounding only but Two of the many paſſages we might cite, to your ſerious conſideration: the one in page 493. is K. *James's Eccleſiaſtical Cammiſſion*, which was never before printed, and has the Authour's ingenious Remarks upon it: The other you have in page 403, 404. where Dr. *Oats* is Vindicated, and his Innocency fully cleared, and that by a Proof (*as the Author well obſerves*) which could not be bribed, nor corrupted; and conſequently the *Popiſh Plot* for ever confirmed. Theſe, and ſuch like *ſecret Occurrences* (whereof there is great plenty throughout the whole Work), leſſen our Wonder at the extraordinary Reception we perceive it has met with (*though abroad but a few Days*), inſomuch that *other Nations* are not like to be long without the benefit of it, we being *well aſſured* that 'tis already Tranſlating into *French*.

☞ AN Anſwer to the *New Project about mens flying in the Air*, ſhall be inſerted in next *Saturdays Mercury*.

Advertiſement.

THE Gentlemou's Journal for the War: being on Hiſtorical Account, and Geographical Deſcription of many ſtrong Cities, Towns and Ports of *Europe*, with Authentick Draughts of the Fortifications of every place, engraven on Copper Plates; together with an Explication of the Terms of Art uſed in Fortification. Part 3*d*, containing Deſcriptions and Draughts of theſe Towns, *Leige*, *Coni*, *Oudenarde* and *Philipsburgh*. The 1*ſt* and 2*d* parts containing Deſcriptions and Draughts of *Dunkirk*, *Maeſtricht* and *Huy*, *Mentz*, *Breſt*, with a Map of the Road and Coaſts adjacent: The Iſland, City and Port of *Cadiz*. *Pignerol*, *Caſal*, *Charleroy*, *Aeth*, *St. Malo*, with a Chart of the Road and Coaſts adjacent, *Bell-Iſle*, a Deſcription and Draught of the Cheif Town, and a Map of the Iſland, *Newport*, *Oſtend*, *Mons* and *Namur*. Printed for *A. Swal* and *T. Child*, at the *Unicorn* at the *Weſt End* of St. *Paul's* Church-yard.

WAlter Lloyd at the *Antient Fowler* in *Tower-ſtreet*, *London*, Sells the Fineſt, Strongeſt Glaz'd, or not Glaz'd Gun-Powder, which by the Experience of ſeveral Perſons of Quality and others hath conſiderably out done any other Gun-powder yet made; the ſaid Strong Gun-powder, and all other ſorts of Gun-powder is Sold by him at very reaſonable Rates.

The Ready Money Adventurers

BEing deſirous that it ſhould be quite full, it is deferred to the 9th of *October* next, within which time it is not doubted but it will be quite full, by reaſon that moſt of the Books is already full, and the reſt is very near ull: *The Tickets may be had of* Mr. *Harriſon*, at the *Hen and Chickens* in *Cheapſide*, Mr. *Clements* at the *Seven Stars* in *Newgate-ſtreet*, Mr. *Thriſcroſs* without *Ludgate*, Mr. *Hart* at the *Crown* near *Turnſtile* in *Holborn*, Mr. *Prince* over-againſt *Red Lyon-Court* in *Drury-lane*, Mr. *Roberts* at the *Green Dragon* near the *New Exchange in the Strand*, Mr. *Hooton* at the *Golden Boy* near *Charing Croſs*, Mr. *Coleman* over-againſt the *King's Brewhouſe* by the *Hermitage* near St. *Catharines*, Mr. *Amſon* at the *Ring* near *Saliſbury-Court* in *Fleetſtreet*, Gold-ſmiths; At Mr. *Lloyds* Coffee-houſe in *Lumbard-ſtreet*, Mr. *Brand* at the *Rain-bow Coffee-houſe*, the Corner of St. *Martins-lane*, *Charing-Croſs*, Mr. *Sanders* at the *Carliſle Coffee-houſe* in *Kings-ſtreet* near *Guild-hall*, Mr. *Deardes* at the *Dial* under St. *Dunſtan's Church* in *Fleetſtreet*, and at his Shop in *Weſtminſter-hall*. *It will be drawn at the* Muſick-Room *in* Charles-ſtreet, Covent-Garden.

The Sale of Sterling Plate.

THere being Books at *York* and at *Tunbaidge*, which could not be got here in time to be drawn, the Adventurers, Receivers and Undertakers, being deſirous it ſhoutd be full, it is deferred to the 15*th* of *October*, in which time it is hop'd it will be quiie full; if not, it ſhall then be certainly drawn, in proportion to what is full; and will not be put off any longer, for all things are preparing for drawing then. *Tickets may be had of Mr.* Bowman *at the* Flower-de-luce, *near the* New Exchange *in the* Strand, *Mr.* Cole *at the* Anchor *over-againſt St.* Dunſtan's-Church *in* Fleet-ſtreet, *Mr.* Foden *at the* Golden-Falcon *near* Fetter-lane-end *in* Holborn, *Mr.* Burningham *at the* Black-Raven *in* Newgate-ſtreet, *Mr.* Layfeild *at the* White-horſe *in* Lumbard-ſtreet, *Mr.* Barſham *at* Ratcliff-Croſs, *Mr.* de Cayne *at* Biſhops-gate, *Mr.* Holloway *at the* Cup *in* Leaden-hall-ſtreet *near* Ald-gate, *Mr.* Sykamore *at the* Star on *St.* Margaret's-Hill *in* Southwark, *Goldſmiths*, Mr. Ward *at the* Mere-maid *in* Cheap-ſide, *Mr.* Millner *in* Popes-head-Alley *near the* Royal-Exchange, *Mr.* Brindley *at the corner of* Fetter-lane *in* Fleetſtreet, *Mr.* Banes *Merchant in the City of* York, *Mr.* Smith *next* Bedford-gate *in* Charles-ſtreet Covent-Garden.

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